Quang Bao Le | Curriculum Vitae

Senior Scientist | Agricultural Livelihood Systems & Systems Modelling Expert
International Center for Agricultural Research in Dry Areas (ICARDA)
15 Khalid Abu Dalbouh St.
Amman 11195
JORDAN

Permanent Address
32 Xuan 68, Hue city
VIETNAM

E-mails:	q.le@cgiar.org (ICARDA) | qble.ludas@gmail.com; q.le@iludas.com (private/permanent)
Born:	25 November 1969 | Hue city, Vietnam
Citizenship:	Vietnamese
Civil status:	Married
Languages:	Vietnamese (native), English (proficient for scholarly activities)

EDUCATION

2001 - 2005	*Ph.D., Geoscience* (minor: Ecology and Natural Resources Management, Land Use Systems Science), Department of Geography, University of Bonn, Germany
1996 - 1998	*M.Sc., Environmental Science* (minor: Environmental Risk Assessment for Tropical Ecosystems), Chiang Mai University, Thailand (in collaboration with Saarland University, Germany)
1988 - 1993	*Forestry Engineer* (major: Forest Biological Sciences and Silviculture, minor: Forest Management, Forest Restoration, Agroforestry Systems), College of Agriculture and Forestry, Hue University, Vietnam

APOINTMENTS

2017 – present	*Senior Scientist* (Integrated Systems Analysis and Modelling), International Centre for Agricultural Research in Dry Areas (ICARDA), Amman, Jordan
2015 – present	*Affiliated Senior Fellow* (Ecology and Natural Resources Management), Center for Development Research (ZEF), University of Bonn, Germany
2015 – 2016	*Senior Scientist* (Agricultural Livelihood Systems Expert), Program Management Unit (PMU) of CGIAR Research Program on Dryland Systems, c/o International Centre for Agricultural Research in Dry Areas (ICARDA), Amman, Jordan
2011 – 2014	*Senior Scientist and Lecturer* (Human-Environment Systems Science and Modelling), the Chair of Natural and Social Science Interface (NSSI), Institution for Environmental Decisions (IED), Department of Environmental Systems Science (D-USYS), ETH Zurich, Switzerland
2009 – 2011	*Post-doctoral Fellow and Lecturer* (Human-Environmental Systems Science and Modelling), the Chair of Natural and Social Science Interface (NSSI) Institution for Environmental Decisions (IED), Department of Environmental Systems Science (D-USYS), ETH Zurich, Switzerland
2006 – 2009	*Senior Researcher and Lecturer* (Ecology, Land Use Systems Science and Modelling), Center for Development Research (ZEF), University of Bonn, Germany
1998 – 2001	*Lecturer* (Plant Genetics, Forest Tree Improvement, Forest Genetic Conservation) College of Agriculture and Forestry, Hue University, Vietnam
1993 –1996	*Junior Lecturer* (Forest Tree Improvement, Forest Genetic Conservation), College of Agriculture and Forestry, Hue University, Vietnam

CURRENT RESEARCH INTERESTS

The empirical research issues of interest revolve around Sustainable Land Use Systems that would contribute to the achievement of the Sustainable Development Goals related to Land Degradation Neutrality, Food Security and Poverty Alleviation. In this respect, I have organized my research activities using multi-scales approach that consider and link relevant processes from farm/household to landscape, national scales and beyond. Current research issues include:

- Regional land-use systems transformation and related transition management
- Mapping of hotspots of soil and land degradation and bright spots of land restoration

- Drivers and viable management mechanisms accounting for successful soil and land restoration
- Evaluation and development of plausible scenarios of land use/management transition (considering trade-offs and contextual diversity) towards land resilience and Land Degradation Neutrality at scale
- Central issues in the science of scale in soil and land resources management, e.g. better understanding of the scale dependency/independency of key processes, their indicators and drivers in land degradation and improvement, robust extrapolation domains of site-specific sustainable land management options, and integrated landscape units that are more responsiveness in both soil restoration and climate mitigation (preliminary work/thought here).

Methodological and operational tool development is the second line of my research interest. In general, I am interested in the development of robust tools/methods for generating knowledge (i.e. plausible answers to *what-if* questions) to support multi-stakeholder discourses and decision-making in sustainable land management and planning. The concrete methodological issues of interest include:

- Socio-ecological system (SES) frameworks for land use transition
- Indicators of land use systems' resilience meeting SMART standards
- Modeling adaptive land-use decisions in coping with high uncertainty
- Landscape models integrating soil, water and vegetation dynamics with land management measures; multi-scale data integration (from plots, farm to landscape)
- Integration of ecological models with socio-economic models in the development of unified SES models of land use transitions (e.g., hybrid multi-agent systems/agent-based models – MAS/ABM – and component-based models)
- Geoinformatic Options-by-Context tool to support out-scaling of sustainable land management practices
- Scenario-based approaches combining the complementary strengths of scientific models/tools and transdisciplinary processes.

RESEARCH PERFORMANCE INDICATORS

64 peer-reviewed publications, including 49 listed on ISI Web of Science/Knowledge and/or SCOPUS.

H-index:
- Google Scholar: 19 (1618 citations)
- Elsevier SCOPUS: 14 (683 citations)
- Web of Science (ISI): 12 (522 citations)

Average citations per paper (ISI): 21.75

Average citations per year (ISI): 58.00

Most cited papers in Elsevier's Ecological informatics (period 2007-2012):

- The 4rd Most Cited Paper: Le, Q.B., et al. (2008). Ecological Informatics 3(3): 135 - 153.
- The 8th Most Cited Paper: Le, Q.B., et al. (2010). Ecological Informatics 5(3): 203 - 221.

The LUDAS (Land Use DynAmics Simulator) I originally developed this modelling framework/tool and it is now widely used: "*Across a number of broad searches in Web of Knowledge, Google, and Google Scholar for agent-based models in agriculture and natural resource management, three frameworks emerged as prominent (in terms of the number of publications): AgriPolis (and the MEA-Scope approach), FEARLUS (and variants), and LUDAS (and variants)*." (independent review by Bell et al. (2015, p. 191))

ACADEMIC AWARDS

Award for Recognized Reviewer in Ecological Informatics 2016**.** This Award was given by the Editors of Elsevier's Ecological Informatics in recognition of my review service made for the journal. Download link

Breheny Prize 2013. The Prize was awarded by the Editorial Broad of Environment and Planning B journal for the best paper published in 2012 in the journal: Feitosa, F.F., Le, Q.B., et al. (2012). Countering urban segregation in Brazilian cities: Policy-oriented explorations using agent-based simulation. Environment and Planning B: Planning and Design 39: 1131 – 1150. Download link

Swiss-Academies Award for Transdisciplinary Research 2013. Swiss Academy of Arts and Sciences gave this Award in recognition of "Distinguished Achievement" in transdisciplinary research of the Mountland project, and my contribution to the successfulness of the project. Download link

EXPERIENCE IN PROFESSORSHIP APPLICATIONS

03.2015 Short-listed for Full Professor of Geography and Sustainable Development, University of Bern, Switzerland. Unable to attend the invited science lecture and follow-up interviews due to unexpected logistic matter

07.2013 Short listed for Associate Professor in Sustainability Science at Todai Institute for Advanced Study, Integrated Research System for Sustainability Science (IR3S), the University of Tokyo

HONNORARY

2015 – now *Affiliated Senior Fellow***,** Department of Ecology and Natural Resource Management (ZEF-c), Center for Development Research (ZEF), University of Bonn (http://www.zef.de/index.php?id=2554)

MEMBERSHIPS OF PROFESSIONAL ASSOCIATIONS/SOCIETIES

International Association of Landscape Ecology (IALE)
International Environmental Modelling and Simulation Society (iEMSs)
American Geoscience Union (AGU)
Society of Conservation Biology (SCB)

MEMBER OF JOURNAL EDITORIAL BOARDS

2014 – present Editorial Board Member, *Nutrient Cycling in Agroecosystems* journal (link)
2015 – present Review Editor, *Agroecology and Land Use Systems* journal (link)
2013 – present Editorial Board Member, *Change and Adaptation in Socio-Ecological Systems* journal (link)

SCIENTIFIC SERVICES

Lead organizer of science sessions in international conferences

Le, Q.B. (organizer), Seidl, R., Villamor, G.B. (co-organizers): Session K6 - Modelling human decision-making situated in socio-ecological system models of land-use transitions. In the 21st International Congress on Modelling and Simulation (MODSIM 2015), 29 November - 4 December 2015, Broadbeach, Queensland, Australia.

Review services for academic journals/proceedings

Nutrient Cycling in Agroecosystems (*23*), Ecological Informatics (*11*), Environmental Modelling and Software (*7*), Land Use Policy (*3*)Journal of Environmental Management (*2*), Ecology and Society (*2*), Land Degradation and Development (*2*), Environmental Monitoring and Assessment (*1*), Climate and Development (*1*); IEEE Systems Journal (*1*), Environmental Science and Policy (*1*), Simulation Modelling Practice and Theory (*1*), Remote Sensing (*1*), Water Resources Management (*1*), Frontiers in Agroecology and Land Use Systems (*1*), Global Environmental Change (*1*), Environmental Impact Assessment Reviews (*1*), Regional Environmental Change (*1*), International Soil and Water Conservation Research (*1*), Agricultural Systems (*1*), Applied Geography (1), Proceedings of International Society of Environmental Modelling and Simulation Software (iEMSs) Congresses: 2010 (*2*), 2012 (*5*), Proceedings of International Congress on Modelling and Simulation (MODSIM) Congresses 2013 (*3*) and 2015 (*2*).

Reviewer services for foundations' research proposals

The Netherlands Organisation for Scientific Research (NWO) (*2*), US National Science Foundation (US SNF) (*1*), Wageningen University (WAU) (*1*)

INVITED TALKS

2015 *Socio-Ecological System Models for Supporting Farm Resilience: Research Needs, Gaps and Promising Approaches.* Invited Public Seminar (hosted by Dr. Roman Carrasco), 30 June 2015 at the Department of Biological Science, Faculty of Science, National University of Singapore (NUS), Singapore.

2014 *Human-Environment System Modeling to Support Landscape Sustainability: Agent-based Framework, Current Progresses and Prospects*. Invited Public Lecture, 01 December 2014 at Institute of Ecology, University of Innsbruck, Austria.

2014 *Necessity of Considering High-Ordered Adaptive Decisions In Modeling Long-Term Land Use Transformation.* Invited Flash Talk in Round-Table Session "Human Decisions in ABM for Land Use - How to Implement and Document?", the 2nd Open Science Meeting of the Global Land Project, 19-21 March 2014, Berlin, Germany.

2013 *Biomass Productivity-Based Mapping of Global Land Degradation Hotspots*: *Current Progress and Limitations*. Invited Presentation, Dialogue Session "How Can We Mobilize Societal Change to Address Land Degradation and Reduce Poverty in The Developing World: The Role for Local Policy Actions?", the 2nd Global Soil Week, 27-31 October 2013, Berlin, Germany.

2012 *Status and Trends of Global Land Degradation: Indicators*. Keynote Presentation, 8-hour Dialogue Session "Global Land and Soil Degradation", the 1st Global Soil Week, 18-22 November 2012, Berlin, Germany.

2012 *Global Land Degradation*, Discussion Panelist, the 1*st* Global Soil Week, 18-22 November 2012, Berlin, Germany.

2012 Human-Environmental System Approach to Land Degradation and Farming System's Resilience Research: Concepts, Principles and Demonstrative Case Studies in West Africa and Vietnam. Invited Public Lecture, Soil and Fertilizer Research Institute, Vietnam Academy of Agricultural Sciences, 20 July 2012, Hanoi, Vietnam.

2012 *Relevant Theoretical and Empirical Aspects for Considering Human Decision-Making Represented in Agent-Based Models for Natural Resource Management*. Stand-point Presentation, Workshop H6, International Environmental Modelling and Software Society (iEMSs), Sixth Biennial Meeting, Leipzig, Germany, 2-5 July 2012.

2012 *Multi-agent system (MAS) modeling for sustainable land-use transition*. Invited Public Lecture at the Department of Geography, Seoul National University, Seoul, South Korea.

2009 *Sustainable Livelihood Approach to Disaster Risk Reduction*. Invited Presentation at M.Sc. program on Advanced Studies in Natural Hazards Management (MAS NATHAZ), ETH Zurich, 30 October 2009, Zurich, Switzerland.

2009 *Agent-based Modeling for Complex Adaptive Human-Environment Systems to Support Sustainable Resource Management*. Invited Presentation at the Doctoral Program on Development Studies, Center for Development Research (ZEF), University of Bonn, 23 September 2009, Bonn, Germany.

RESEARCH PROJECTS AND GRANTS

2017 *Global Geoinformatics Tools for Evaluation of Impacts of Sustainable Land Management Options by Context*. Funding agency: BMZ/GIZ, Germany. Responsibility: Lead scientist of the project. Individual fund granted: 47,000 USD.

2017 *Mind of the Gap: Improving Dissemination Strategies to Increase Technology Adoption by Smallholders*. Funding agency: BMZ/GIZ, Germany. Responsibility: Lead of cluster "*Geographic context domains for supporting up- and out-scaling of findings*". Individual fund granted: 24,000 USD.

2017 *Restoration of Degraded Lands in East Africa and the Sahel: Taking Successes in Land Restoration to Scale (with ICRAF)*. Funding agency: BMZ/GIZ, Germany and IFAD, Italy. Responsibility: GIS-based impact assessment. Individual fund granted: 13,500 USD

2015 – 2016 *Integrated Systems Analysis and Modeling of Agricultural Livelihood Systems in Global Dryland*. Global cluster of CGIAR Research Program in Dryland Systems. Funding agency: CGIAR. Responsibility: Cluster leader. Individual fund granted: 250,000 USD/ year 2015.

2013 *Resilience of Global Food Value Chains - A Feasibility Study*. Funding agency: World Food System Center, ETH Zurich (Switzerland). Individual budget granted: 1,600 CHF / 1 month (20%).

2013 *Mapping Global Land Degradation Hotspots Using Biomass Productivity-based Approach*. Funding agency: ZEF, University of Bonn (Germany). Individual budget granted: 6,000 EURO / 1 month (100%).

2012 *New System Approach to Promoting Sustainable Agricultural Production in Dryland System - Proposed Concepts, Framework and Methods*. Funding agency: CIAT-Africa (Kenya). Individual budget granted: 8,000 USD / 1 month (100%)

2009 - 2012 *Sustainable Land-Use Practices in Mountain Regions: Integrative Analysis of Ecosystem Dynamics Under Global Change, Socio-Economic Impacts and Policy Implications (MOUNTLAND)*. Funding agency: CCES, ETH Zurich (Switzerland). Individual budget granted: 30,000 CHF / 3 years (10%)

2005 – 2009 *Global Change and Hydrological Science in the Volta Basin (GLOWA-Volta)*. Funding agency: BMBF (Germany). Main responsibilities: (1) Multi-agent system modeling of land-use change (sub-project E3, team leader), (2) Development of cellular automata model of land cover changes (sub-project E2), (3) Remote sensing-based assessment of land degradation in sub-Saharan Africa (associated sub-project). Individual budget granted: 150,000 EURO / 4 years (100%)

1998 – 2001 *Community-Based Management of Upland Natural Resources in Central Vietnam*. Funding agency: IDRC (Canada) and Ford Foundation (US). Main responsibility: Team leader of the Land Use and Forest Management group. Individual budget granted: 10,000 USD

1998 – 2001 *Social Forestry Support Program – Vietnam (SFSP)*. Funding agency: SDC (Switzerland). Main responsibility: Team leader in Social Forestry Research. Individual budget granted: 10,000 USD

1999 - 2001 *Southeast Asian Network of Agro-forestry Education (SEANNAFE)*. Funding agency: ICRAF, Sida (Sweden). Individual budget granted: 1,000 USD

TEACHING AND SUPERVISION EXPERIENCE

Regular courses

2010 - 2014 *Introduction to Human-Environment Systems Modeling*, 3 ECTS, Spring Semester, ETH Zurich.

2006 – 2009 *Introduction to Geo-statistics*, 16 hours as parts of the regular course module *Ecology, Land Use and Development*, Doctoral Program on Development Studies, Center for Development Research (ZEF), University of Bonn.

1994 – 2001 *Plant Genetics and Forest Tree Improvement*, 75 hours, College of Agriculture and Forestry, Hue University, Vietnam.

Invited lectures

2015 *Introduction to Human-Environment Systems Modeling*, 2 ECTS, Winter Semester 2015/16, October 2015, University of Innsbruck, Innsbruck, Austria.

2014 *Human-Environment System Modeling to Support Landscape Sustainability: Framework, Progress, Prospects*. Invited Public Lecture (hosted by Prof. Ulrike Tappeiner), 01 December 2014 at Institute of Ecology, University of Innsbruck, Innsbruck, Austria.

2014 *Spatial Statistical Modelling Applied to Ecological and Environmental Research*. One full day (8 hours, including input lectures and computer lab) (06 February 2014), Doctoral Program for Development Studies (Disciplinary Module: Ecology and Development), Center for Development Research (ZEF), University of Bonn, Germany.

2013 *Integrative Land-Use Change Modeling*, two full weeks (24 June – 05 July 2013), WASCAL Doctoral Studies Program in Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana.

2012 *Application of Multi-Agent System for Modeling Land-Use Changes and Other Topics*, one full week (10-15 June 2012), Department of Geography, Seoul National University, South Korea.

2012 *Integrative Land-Use Change Modeling*, two full weeks (7-18 May 2012), WASCAL Doctoral Studies Program in Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana.

2011 *Multi-agent System Modeling of Land-Use Changes: Learning the Approach through Developing a Model Prototype for Gariwang-san Area, Pyeong Chang province, South Korea*, one full week (04-08 April 2011), Department of Geography, Seoul National University.

2009 *Supporting sustainable Land/Water-use Management in Semi-Arid Landscapes of the Volta Basin Using Multi-Agent System Simulation*, three full days (in May 2009), jointly organized by United Nation University and the University of Bonn, Cape Coast, Ghana.

2008 *Coupled Human-Environmental System, Its Complexity and Multi-Agent System Simulation Models*, one full day (in July 2008), Summer School *Land Cover and Climate Change in West Africa* organized for the M.Sc. Program *Global Change Ecology* of the University of Bayreuth, Wuerburg, Germany.

Supervision for graduate students

Main supervising

Badabate Diwediga, Ph.D. student, Kwame Nkrumah University of Science and Technology (KNUST), 07.2013 – 04.2016 (completed, outstanding grade). Dissertation: 'Assessing rural lands degradation and modeling its impacts on ecosystem services in the Mo basin (Togo)'. 3 ISI journal papers, 1 manuscript submitted to ISI journal.

Laurice C. Faye, Ph.D. student, Kwame Nkrumah University of Science and Technology (KNUST), 07.2013 – 04.2016 (completed, good grade). Dissertation topic: Effects of wood extraction on vegetation composition, structure and biomass stock: the case of Missirah Forest in Senegal. 1 journal paper, 2 manuscripts submitted to ISI journals.

Boundia Thiombiano, Ph.D. student, Kwame Nkrumah University of Science and Technology (KNUST), 05.2012 – 04.2015 (completed, outstanding grade). Dissertation topic: Actor-Based Nutrient Cycles Modeling For Support Building Resilience of Smallholder Agro-Ecosystems to Climatic Changes, Black Volta Sub-basin. 3 full papers published international conference proceedings, 3 manuscripts submitted to ISI journals.

Bernard N. Baatuuwie, Ph.D. student, Kwame Nkrumah University of Science and Technology (KNUST), 05.2012 – 04.2015 (completed, very good grade). Dissertation: 'Multi-level and Indicative Assessment of Land Degradation in White Volta Sub-Basin in The Face of Climate and Atmospheric Change'. 1 journal paper, 1 conference paper. 1 manuscript submitted to ISI journal.

Lucas Baumann, Master student, 10.2013 – 04.2014 (completed, very good grade), ETH Zurich (*completed, Very Good grade*). Thesis: 'Social-Ecological Heterogeneity, Resource Use Efficiency and Vulnerability of Smallholder Farming Systems in the North West mountain of Vietnam.'

Marcus Glatt, Master student at ETH Zurich, 07.2013 – 02.2014 (completed, good grade). Thesis: 'Agent-based Phosphorus Flow Analysis in Switzerland.'

Marcus Glatt, BS student at ETH Zurich, Spring Semester 2013 (completed). Thesis: 'Suitability of NUTrient MONitoring (NUTMON) Framework for Sustainable Nutrient Management Research: A Comparison of the NUTMON Concept with Human-Environment System (HES) Framework.'

Co-supervising

Il-Kwon Kim, Ph.D. student, University of Bayreuth, 09.2012 – 03.2017 (completed). Dissertation: Agent-based simulation modeling of spatio-temporal changes in land use/cover and related ecosystem services in South Korea. 2 ISI journal papers, 1 manuscript in preparation.

Quyet Manh Vu, Ph.D. student, ETH Zurich, 10.2010 - 05.2014 (completed). Dissertation: 'Multi-level land degradation assessment in Vietnam.' 2 ISI journal papers, 1 manuscript in preparation.

Doctoral tutor (i.e. scientific adviser in German academic system)

Grace Villamor, Ph.D. student, University of Bonn, 2008 – 2012 (completed, Magna Cum Laude). Dissertation: 'Flexibility of Multi-agent System Models for Rubber Agroforest Landscapes and Social Response to Emerging Reward Mechanisms for Ecosystem Services in Sumatra, Indonesia.' 2 ISI journal papers, 3 full papers published in conference proceedings.

Tyler Frazier, Ph.D. student, University of Bonn, 2006 – 2010 (*completed*, *Cum Laude*). Dissertation: 'A comprehensive energy use plan for Greater Accra, Ghana'.

Marcus Kaplan, Ph.D. student, University of Bonn, 2005 – 2010 (completed, Cum Laude). Dissertation: 'Land-Use Changes, Mangrove Destruction, and Vulnerability in Maduganga Lagoon, Sri Lanka.' 1 ISI journal paper, 1 full paper published in international conference proceedings.

Flavia F. Feitosa, Ph.D. student, University of Bonn, 2006 – 2010 (completed, Magna Cum Laude). Dissertation: 'Urban Segregation as a Complex System: An Agent-Based Simulation Approach.' 2 ISI journal papers, 2 full papers published in international conference proceedings.

Julia Schindler, Ph.D. student, University of Bonn, 2005 – 2009 (completed, Magna Cum Laude). Dissertation: 'Multi-Agent System for Simulating Land-Use and Land-Cover Change in the Atankwidi Catchment in Upper East Ghana.'

COLLABORATIVE RESEARCH INSTITUTES

Center for Development Research (ZEF), *University of Bonn*, Germany (ZEF-c: Prof. Paul Vlek, Dr. Grace Villamor, Prof. Asia Khamzina, Dr. Christine Fuerst; ZEF-b: Prof. Joachim von Braun, Dr. Alisher Mirzabaev)

Various divisions of Swiss Federal Institute of Technology (ETH) Zurich, Switzerland (Prof. Johan Six, Prof. Emmanuel Frossard, Prof. Robert Finger, Drs. Pius Kruetli, Gregoire Meyland, Roman Seidl, Robert Huber and others)

Department Computational Landscape Ecology, Helmholtz Centre for Environmental Research (UFZ), Leipzig, Germany (Dr. Joerg Priess, Dr. Birgit Mueller)

Institute of Ecology, University of Innsbruck, Austria (Prof. Ulrike Tappeiner, Prof. Georg Franz Leitinger)

Department of Geography, Seoul National University, Republic of Korea (Prof. Soo Jin Park)

Department of Plant Ecology and Chair of Ecosystem Services, University of Bayreuth, Germany (Prof. John Tenhunen, Prof. Thomas Koellner, Dr. Thanh Nguyen)

Earth System Science Center (CCST), National Institute for Space Research (INPE), São José dos Campos, Brazil (Dr. Flávia F. Feitosa)

Graduate School of Agricultural and Life Sciences, the *University of Tokyo*, Japan (Prof. Toshiya Okuro)

Tokyo University of Agriculture and Technology, Japan (Ass. Prof. Takafumi Miyasaka)

International Center for Tropical Agriculture (CIAT) (Dr. Lulseged Tamene)

International Center for Agroforestry Research (ICRAF) (Dr. Meine van Noordwijk, Dr. Ermias Aynekulu)

International Food Policy Research Institute (IFPRI) (Dr. Ephraim Nkonya)

West African Science Service Center for Climate Change and Adapted Land Use (WASCAL), Ghana (Prof. Paul Vlek's group)

CGIAR's Water, Land and Ecosystems (WLE) research program (as an external partner of Ecosystem Services and Resilience group)

Eight CGIAR research centers who are the members of CGIAR Research Program in Dryland Systems.

COUNTRIES WITH FIELD EXPERIENCE (MORE THAN ONE MONTH)

Vietnam	B.Sc. study (1988 - 1993), forestry and land-use research/teaching (1993 - 1996, 1998-2001), and Ph.D. field works (2002-2003), several field-based supervision and project works (2008 - now)
Thailand	M.Sc. study and research (1997-1998)
Burkina Faso	Post-doc field research (2005-2008), supervision of several students' field works (2012-now)
Ghana	Post-doc field research (2005-2008), supervision of several students' field works (2012-now)
Togo, Senegal	Supervision of several students' field works (2012-now)
Malawi	Supervision national research staff within collaborative research projects (2015 – now)
Uzbekistan	Supervision national research staff within collaborative research projects (2015 – now)
Tunisia	Supervision national research staff within collaborative research projects (2015 – now)

REFERENCES

Paul L.G. Vlek, Ph.D., Professor Emeritus, Center for Development Research (ZEF), University of Bonn Walter-Flex-Str. 3, 53113, Bonn, Germany. E-mail: p.vlek@uni-bonn.de

Richard J. Thomas, Ph.D., Scientific Coordinator, Global Land Economics (ELD) Initiative, c/o International Center for Agricultural Research in Dry Areas (ICARDA), Amman 11195, Jordan, E-mail: R.Thomas@cgiar.org (*Former Director of CGIAR Research Program on Dryland Systems (CRP-DS)*)

Andrew D. Noble, Ph.D., Senior Research Fellow, Stockholm Environment Institute – Asia (SEI-Asia), Bangkok 10330, Thailand. E-mail: andrew.noble@sei-international.org (*Former Deputy Director General for Research, ICARDA*)

LIST OF PUBLICATIONS

Summary: 64 peer-reviewed publications, including 49 papers listed on ISI Web of Science/Knowledge and/or Elsevier SCOPUS

***** indicates a corresponding role of QBL

♦ indicates a researcher or student who was closely supervised by QBL on the published work.

Peer-Reviewed Journal Articles (32, including 29 listed on ISI Web of Science)

1. Kim♦, I., Arnhold, S., Ahn, S., **Le, Q.B.**, Kim, S.J., Park, S.J., Koellner, T. (2017). Land use change and ecosystem services in mountainous watersheds: Predicting the consequences of environmental policies with cellular automata and hydrological modeling. *Environmental Modelling & Software*, Online First. DOI: 10.1016/j.envsoft.2017.06.018 (ISI Web of Science, Impact Factor 2016/17: 4.404)
2. Tamene, L., Adimassu, Z., Ellison, J., Yaekob, T., Woldearegay, K., Mekonnen, K., Thorne, P., **Le, Q.B.** (2017). Mapping soil erosion hotspots and assessing the potential impacts of land management practices in the highlands of Ethiopia. *Geomorphology* 292, 153-163. DOI: 10.1016/j.geomorph.2017.04.038 (ISI Web of Science, Impact Factor 2016/17 = 2.958)
3. Miyasaka♦, T., **Le, Q.B.**, Okuro, T., Zhao, X., Takeuchi, K. (2017). Agent-based modeling of complex social-ecological feedback loops to assess multidimensional trade-offs in dryland ecosystem services. *Landscape Ecology* 32(4), 707-727. DOI: 10.1007/s10980-017-0495-x (ISI Web of Science, Impact Factor 2015/16 = 3.615)
4. Stringer, L., Reed, M., Fleskens, L., Thomas, R.J., **Le, Q.B.**, Lala-Pritchard, T. (2017). A new dryland development paradigm grounded in empirical analysis of dryland systems science. *Land Degradation and Development*, Online First. DOI: 10.1002/ldr.2716 (ISI Web of Science, Impact Factor 2016/17 = 9.787)
5. Diwediga♦, B., Agodzo, S., Wala, K., **Le, Q.B.** (2017). Assessment of multifunctional landscapes dynamics in the mountainous basin of the Mo River (Togo, West Africa). *Journal of Geographical Sciences* 27, 579-605. DOI: 10.1007/s11442-017-1394-4. (ISI Web of Science, Impact Factor 2016/17 = 2.369)
6. Diwediga♦, B., **Le, Q.B.**, Agodzo, S., Wala, K. (2017). Potential storages and drivers of soil organic carbon and total nitrogen across river basin landscape: The case of Mo river basin (Togo) in West Africa. *Ecological Engineering* 99, 298-309. DOI: 10.1016/j.ecoleng.2016.11.055 (ISI Web of Science, Impact Factor 2016/17 = 2.914)
7. Baatuuwie♦, N.B., **Le, Q.B.**, Agyare, A.W., Forkuo, K.E. (2017). Communities' perceptions of land degradation: A case study in the Savanna belt of the White Volta Basin. UDS International Journal of Development 3, 32-50. URL: www.udsijd.org/index.php/udsijd/article/download/125/66
8. Diwediga♦, B., Wala, K., Folega, F., Dourma, M., Woegan, Y.A., Akpagana, K., **Le, Q.B**. (2015). Biophysical and anthropogenous determinants of landscape patterns and degradation of plant communities in Mo hilly basin (Togo). *Ecological Engineering* 85, 132-143. DOI: 10.1016/j.ecoleng.2015.09.059 (ISI Web of Science, Impact Factor 2016/17 = 2.914)
9. Tendall, D.M., Joerin, J., Kopainsky, B., Edwards, P., Shreck, A., **Le, Q.B.**, Kruetli, P., Grant, M., Six, J., (2015). Food system resilience: Defining the concept. *Global Food Security* 6, 17-23. DOI: 10.1016/j.gfs.2015.08.001 (ISI Web of Science, Impact Factor 2016/17 = 3.527)
10. Tran, Minh-Tien., Tran, Thu-Minh, Nguyen, Bich-Thu, **Le, Q. B.** (2015). Spatially explicit assessment of nutrient demands for promoting efficient regional fertilizer-use management in Vietnam. *Global Environmental Research* 19: 43-48.
11. Pohl, C., Wuelser, G., Bebi, P., Bugmann, H., Buttler, A., Elkin, C., Grêt-Regamey, A., Hirschi, C., **Le, Q.B.**, Peringer, A., Rigling, A., Seidl, R., Huber, R. (2015). How to successfully publish interdisciplinary research: learning from an Ecology and Society Special Feature. *Ecology and Society* 20, 23. DOI: 10.5751/ES-07448-200223. (ISI Web of Science, Impact Factor 2016/17 = 2.842)
12. Tamene, L., **Le*, Q.B.** (2015). Estimating soil erosion in sub-Saharan Africa based on landscape similarity mapping and using the revised universal soil loss equation (RUSLE). *Nutrient Cycling in Agroecosystems* 102 (1), 17-31. DOI: 10.1007/s10705-10015-19674-10709 (ISI Web of Science, Impact Factor 2016/17 = 1.843)
13. Tamene, L., **Le*, Q.B.**, Vlek, P.L.G. (2014). Developing a landscape planning and management tool to help tackle land and water degradation in data scarce regions. *Water Resources Management* 28(2), 407-424. DOI:10.1007/s11269-013-0490-1 (ISI Web of Science, Impact Factor 2016/17 = 2.848)

14. Vu♦, M.Q., **Le*, Q.B.**, Frossard, E., Vlek, P.L.G. (2014). Socio-economic and biophysical determinants of land degradation in Vietnam: An integrated causal analysis at the national level. *Land Use Policy* 36, 605 - 617. DOI:10.1016/j.landusepol.2013.10.012 (ISI Web of Science, Impact Factor 2016/17 = 3.089)
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13. Tran, Minh-Tien., Tran, Thu-Minh, Nguyen, Bich-Thu, **Le, Q.B.** (2012). Spatially explicit assessment of nutrient demands for promoting efficient regional fertilizer-use management in Vietnam. The *10th International Conference on EcoBalance*: *Challenges and Solutions for Sustainable Society*, 20-23 November 2012, Keio University, Yokohama, Japan, pp. 1-4. DOI: 10.13140/RG.2.1.4519.0161
14. Feitosa♦, F.F. **Le, Q.B.**, Monteiro, A. M. V., Vlek, P. (2011). Cidade e Complexidade: Modelagem e Simulação Computacional de Dinâmicas de Segregação Urbana. Anais do XIV Encontro Nacional da ANPUR, Rio de Janeiro, 2011.
15. **Le*, Q.B.**, Seidl, R., Scholz, R. W. (2010). Modeling the adaptation of land-use decisions to landscape changes using an agent-based system: A case study in a mountainous catchment in central Vietnam. In: David A. Swayne, Wanhong Yang, A. A. Voinov, A. Rizzoli, T. Filatova (Eds.). *International Environmental Modelling and Software Society (iEMSs): Modelling for Environment's Sake. Fifth Biennial Meeting*, Ottawa, Canada, pp. 1524 – 1531. DOI: http://dx.doi.org/10.13140/RG.2.1.1553.5125 (SCOPUS)
16. Feitosa♦, F.F., **Le, Q.B.**, Vlek, L.G. (2009). MASUS: A multi-agent simulator for urban segregation. Proceedings of the *6th European Social Simulation Association Conference*, September 14-18 2009, Guildford, England. (SCOPUS)
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2. Tsegai, D.W., **Le, Q.B.** (2010). District-Level Spatial Analysis of Migration Flows in Ghana: Determinants and Implications for Policy. *ZEF-Discussion Papers on Development Policy* 144, p. 22. DOI: 10.2139/ssrn.1729598 (ISI Web of Knowledge)
3. Nkonya, E., Braun, J.V., Mirzabaev, A., **Le, Q.B.**, Kwon, H., Kirui, O. (2013). Economics of land degradation initiative: methods and approach for global and national assessments. *ZEF-Discussion Papers on Development Policy* 183, p. 41. DOI: 10.2139/ssrn.2343636 (ISI Web of Knowledge: <Go to ISI>://CABI:20143039416).

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2. Vlek, P. L. G., **Le, Q.B.**, Tamene, L. (2009). African land degradation in a world of global change: does atmospheric fertilization conceal degradation? Proceedings of MARCO Symposium 2009. Challenges for Agro-Environmental Research in Monsoon Asia. October 5-7, Tsukuba, Japan.
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1. Thomas, R.J., Reed, M., Clifton, K., Appadurai, A.N., Mills, A.J., Zucca, C., Kodsi, E., Sircely, J., Haddad, F., Hagen, C., Mapedza, E., Wolderegay, K., Shalander, K., Bellon, M., **Le, Q.B.**, Mabikke, S., Alexander, S., Leu, S., Schlingloff, S., Lala-Pritchard, T., Mares, V., Quiroz, R. (2017). Modalities for Scaling up Sustainable Land Management and Restoration of Degraded Land. Global Land Outlook (GLO) Working Paper, United Nations Convention to Combat Desertification (UNCCD), Bonn, Germany, p. 25. URL
2. Faye♦, L. C., **Le, Q. B.** (2016). Impact of Land-use/cover Change on Tree Species Diversity in Dry Forestland in Southeastern Senegal. CGIAR Research Program on Dryland Systems (CRP-DS), International Center for Agricultural Research in Dry Areas (ICARDA), Amman, Jordan, p. 26. DOI: http://dx.doi.org/10.13140/RG.2.2.19398.88640
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4. Thiombiano♦, A.B., **Le, Q. B.** (2016). Maize and Livestock Production Efficiencies and Their Drivers in Heterogeneous Smallholder Systems in Southwestern Burkina Faso. CGIAR Research Program on Dryland Systems (CRP-DS), International Center for Agricultural Research in Dry Areas (ICARDA), Amman, Jordan, p. 31. DOI: http://dx.doi.org/ 10.13140/RG.2.2.19084.31361
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6. Thiombiano, A.B., **Le, Q. B.** (2016). Agricultural Livelihood Type-specific Behaviour Analyses for Better Targeting Adoption of Sustainable Land Management: A Demonstrative Case Analysis in Pontieba, Southwestern Burkina Faso. CGIAR Research Program in Dryland Systems (CRP-DS), International Center for Agricultural Research in Dry Areas (ICARDA), Amman, Jordan, p. 38. DOI: http//dx.doi.org/10.13140/RG.2.2.15204.58245
7. Thiombiano♦, B.A., **Le, Q. B.** (2016). Integrated Production Functions for Main Crop Fields in Pontieba, Southwestern Burkina Faso: Empirical Estimations for Efficiency Assessment and Further Integrated Modelling. CGIAR Research Program in Dryland Systems (CRP-DS), International Center for Agricultural

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